

Topics to be covered

- Finite Automata
- Regular Languages and Expressions
- Push Down Automaton
- Context Free Languages
- Pumping Lemma
- Myhill-Nerode Theorem
- Turing Machines
- Theory of Undecidability
- Interactive tutorials sessions will be conducted every day to test drive the above topics.

	9.30-10.30	11.00-12.00	2.00-3.30
Dec 8	Motivation Comp.Models	Finite Automaton	Problem Session
Dec 9	Regular Expressions	NFA, Ardens Theorem	Tutorial
Dec 10	Pumping Lemma	Context Free Grammar	Case Studies
Dec 11	Push Down Automaton	Turing Machine	Problem Session
Dec 12	Turing Machine	Undecidability	Undecidability

All lectures shall be delivered through GMeet. E-materials shall also be provided to all participants

About the course (TOC2025)

This course is an introduction to the theory of computation. We start with computability, and discuss different models of computations such as Finite Automaton, Push Down Automaton, and Turing Machines, and see what are the capabilities of each of these models. Each of these models try to model a computer. We see the classes of languages each of these models are capable of computing.

Through these computational models, one will understand the limits of computation, power of computational machines, etc. After computability, we will see an introduction to complexity, where we classify computable languages on the basis of easiness/difficulty of computation. We shall also discuss the science in computer science with a focus on theory of solvability and unsolvability.

Registration

Faculty members. Rs.1000.

Students/Research Scholars - Rs.750

Industry Professionals - Rs 1500

SBIlink:

<https://www.onlinesbi.sbi/sbicollect/icollecthome.htm?corpID=634626>

Following are the steps wise procedure :

<https://www.onlinesbi.sbi/sbicollect/> (SBI e collect -Educational Institute- Tamilnadu- IIITDM Educational Event-STTP (Name of event)- Category (Faculty/Student/Industrialist)-pay

Registration Link:

<https://forms.gle/jPAjzeKHANxDZV3L6>



IIITDM
KANCHEEPURAM

organizes a 5 day Short term course on

Theory of Computation

Dec 8 to Dec 12, 2025

(HYBRID MODE)

IIITDM Kancheepuram, a centrally funded institute offers UG and PG programs in CSE/ECE/ME with the mandate of excelling in IT and IT enabled Design & Manufacturing pedagogy and research. Also, Ph.D programmes in core areas of engineering. More details at www.iiitdm.ac.in

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